

ABSTRACT

The present invention is a core interface mechanism that permits 1:N type port protection on the core side of the switch such that core bandwidth is not wasted by the direct connection of service cards to the switching core. In an exemplary embodiment, a core interface module supports up to two active service cards and one dedicated protection service card. To provide increased efficiency and lower cost the redundant service card does not strand user bandwidth in the switch core. In an exemplary embodiment, the core interface includes a plurality of core side input and output ports for coupling to the switching core and a plurality of card side input and output ports for coupling to the service cards. A data flow switch function couples between the core side ports and the card side ports. The data flow switch function operates to complete data flow paths between the core side ports and the card side ports. A link failure detector detects a communications failure on a communications link associated with one of the active service cards and alters the data flow switch function such that one or more of said data flow paths associated with one of the active service cards are switched to one of said protection cards. The bandwidth allotment between the service cards and the interface device is generally greater than available bandwidth between the switching core and the interface device, thereby enabling connection of the protection cards without corresponding usage of switching core bandwidth.